

Non-Thermal Soot Denuder, Phase I

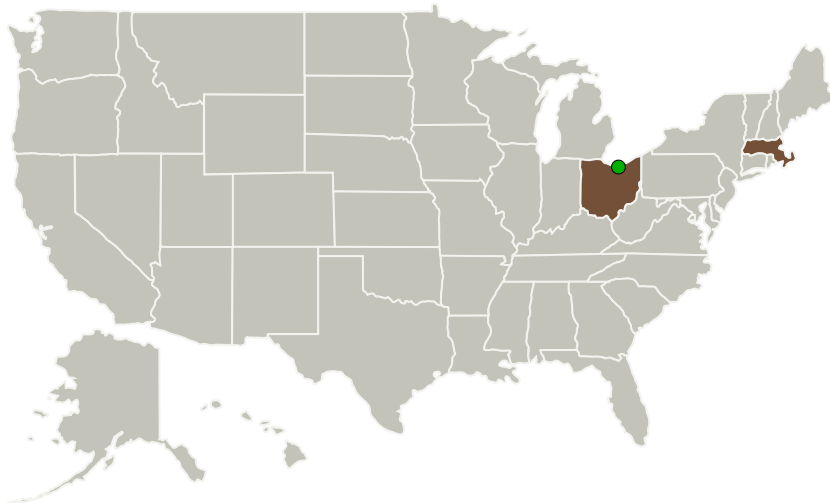
Completed Technology Project (2011 - 2011)




Project Introduction

We propose to develop a non-thermal soot denuder for measuring chemical components of the nucleation mode particulate matter emissions from gas turbine engines, in combination with an Aerodyne Aerosol Mass Spectrometer (AMS). This proposed approach will effectively eliminate the contribution of soot particles to the AMS-measured volatile PM mass spectrum. It is capable of identifying the semi-volatile composition of the nucleation mode particles based on their characteristic mass spectra and also determining the particle size distribution in aerodynamic diameter.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Aerodyne Research, Inc	Lead Organization	Industry	Billerica, Massachusetts
 Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio

Primary U.S. Work Locations

Massachusetts	Ohio
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Project Transitions

 **February 2011:** Project Start

 **September 2011:** Closed out

Closeout Summary: Non-thermal soot denuder, Phase I Project Image

Closeout Documentation:

- Final Summary Chart Image(<https://techport.nasa.gov/file/138683>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Aerodyne Research, Inc

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

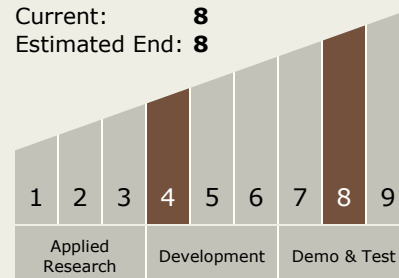
Zhenhong Yu

Technology Maturity (TRL)

Start: 4

Current: 8

Estimated End: 8



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Technology Areas

Primary:

- TX01 Propulsion Systems
 - └ TX01.3 Aero Propulsion
 - └ TX01.3.2 Turbine Based Combined Cycle

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System